

Name: _____

at1113exam: Expand, factor, and solve quadratics (v302)

1. Expand the following expression into standard form.

$$(9x + 8)^2$$

$$81x^2 + 72x + 72x + 64$$

$$81x^2 + 144x + 64$$

2. Expand the following expression into standard form.

$$(5x - 2)(9x - 8)$$

$$45x^2 - 40x - 18x + 16$$

$$45x^2 - 58x + 16$$

3. Expand the following expression into standard form.

$$(2x - 3)(2x + 3)$$

$$4x^2 + 6x - 6x - 9$$

$$4x^2 - 9$$

4. Solve the equation.

$$(7x + 8)(5x + 3) = 0$$

$$x = \frac{-8}{7} \quad x = \frac{-3}{5}$$

5. Factor the expression.

$$36x^2 - 25$$

$$(6x + 5)(6x - 5)$$

6. Factor the expression.

$$x^2 + 7x - 18$$

$$(x - 2)(x + 9)$$

7. Solve the equation.

$$5x^2 + 9x - 12 = 3x^2 - 4x - 5$$

$$2x^2 + 13x - 7 = 0$$

$$(2x - 1)(x + 7) = 0$$

$$x = \frac{1}{2} \quad x = -7$$

8. Solve the equation with factoring by grouping.

$$20x^2 + 15x + 24x + 18 = 0$$

$$(5x + 6)(4x + 3) = 0$$

$$x = \frac{-6}{5} \quad x = \frac{-3}{4}$$